



**STANDARD FIRE SAFETY REQUIREMENTS FOR VEHICLES USED FOR
CONVEYANCE OF CATEGORY 2 DANGEROUS GOODS (CHLORINE)
IN DRUMS/CYLINDERS**

運送圓桶 / 氣瓶裝的第2類危險品（氯氣）的車輛的標準消防安全規定

ENGINE (引擎)

1. The engine of the vehicle shall be the type of compression ignition (Diesel).
車輛的引擎須為壓縮點火式(油渣)。
2. The exhaust system of the engine shall be situated wholly in front of the fire resisting shield and the discharge shall be arranged to offside of the vehicle.
引擎的排氣系統須全部位於防火板前及須由車旁右面排氣。
3. Any fuel pipe which form a part of a gravity feed system, a quick action cut-off valve shall be fitted to the fuel feed pipe in an easily accessible and clearly marked position.
任何成為重力供應系統部份的燃料管須安裝一個快速切斷掣，其位置須方便接近及清楚標明。

FUEL TANK (油箱)

4. The fuel tank shall be:-
油箱須 :-
 - i) complied with a double cases construction;
符合雙重包箱構造；
 - ii) screened from the body by a fire resisting shield;
加裝防火板使其與車身隔離；
 - iii) protected from blows by strong steel guards or by the frame of the chassis of the vehicle; and
以堅固鋼板或車身底盤架作保護以抵擋碰撞；及
 - iv) fitted with a lock to the fuel tank lid.
在入油箱蓋處加鎖。

CARGO COMPARTMENT (貨廂)

5. The overall weight of the cargo compartment and the loading content shall not exceed the designed load capacity of the vehicle.

貨廂及所載貨物的全部重量須不得超過該車輛的限載量。

6. Piping and/or fittings shall not be projected beyond any sides of the vehicle tank. All piping, equipment, hoses, valves, accessories and outlet valves shall be adequately protected against accidental damage or interference. Outlet valves shall be projected by (a) the bumper if the valves are located at the rear of the vehicle; (b) a substantial protective metal bar if located at the side.

所有喉管及/或裝置不得伸延出車輛的四周。所有喉管、裝備、捲喉、活門、其它附件及輸出活門須妥為保護以防意外損毀或阻礙。輸出活門如（甲）位於車尾則須以保險桿加以保護；（乙）如位於車旁則須以堅硬金屬條加以保護。

FIRE RESISTING SHIELD (防火板)

7. The engine, fuel tank, electrical generator, batteries switch gear, fuses and exhaust system of the vehicle shall be situated in front of a fire resisting shield and effectively screened from the cargo compartment by the fire resisting shield.

車輛的引擎、油箱、發電機、電池開關掣、保險絲及排氣系統須位於防火板前並有效地與貨廂隔離。

8. The installation of fire resisting shield shall be projected upwards to a point above the topmost level of the cargo compartment, and downwards to a point not more than 300 mm from the ground. (The steel cab can be deemed to constitute part of the shield).

防火板的安裝須伸延稍高於貨廂頂及向下則離地不超過 300 毫米。（鋼鐵製駕駛室可視作防火板的一部份）。

9. Any aperture made to allow any piping to pass through the fire resisting shield (i.e. air brake tubing) shall be so sealed as to prevent the passage of inflammable vapour through the shield.

任何穿過防火板的管孔(如空氣制動掣管)須密封以防易燃氣體通過該防火板。

10. Any windows in the fire resisting shield shall be wire glazed in fixed metal frame and not capable of being opened.

防火板的任何窗戶須為不可開啓的金屬線玻璃窗外包固定金屬框。

ELECTRICAL SYSTEM (電力系統)

11. All electric wiring shall be heavily insulated and resistant to abrasion and chemical action. The wiring fixed at positions behind the fire resisting shield or in the case of Freight Container Trailers, shall be run in flexible metal conduit.
所有電線必須高度絕緣且有耐損及抗化性能。位於防火板後的電線須套以金屬軟管。
12. A safety cut-off switch shall be fitted in the driver's cab to isolate the electrical system from the battery.
安全斷流掣須安裝於駕駛室內以便切斷電力系統與電池間的電流。
13. Only electric lights shall be used on the vehicle. No fire, artificial light or article capable of causing fire or explosion shall be carried on the vehicle.
車輛內只可使用電燈。可引致火警或爆炸的火焰，人造燈光或物件則不得裝載在車輛。
14. The voltage of the electric current shall not exceed twenty-four volts.
電流的電壓不得超過二十四伏特。

IDENTIFICATION (識別)

15. "NO SMOKING", "不准吸煙" notice of not less than 120 mm in height shall be prominently displayed and this instruction shall be complied with at all times by the driver and attendants on the vehicle.
須在明顯位置懸掛 "NO SMOKING", "不准吸煙" 告示牌一個，字體高度須不少於120毫米。司機及跟車須任何時間遵守此項規定。
16. A notice of not less than 120 mm in height in English capitals and Chinese characters shall be displayed at the front and rear of the vehicle as appropriate:-
車輛前及後須懸掛適當的中英文告示牌，字體高度須不少於120 毫米:-

Front : CAUTION CHLORINE KEEP CLEAR

前： 氯氣，危險勿近。

Rear : CAUTION CHLORINE KEEP CLEAR

後： 氯氣，危險勿近。

17. Portable “CAUTION, TOXIC GAS, KEEP CLEAR”, “有毒氣體，危險勿近” caution sign of not less than 120 mm in height in English capitals and Chinese characters shall be carried on the vehicle for display when implementing the guidelines stipulated in the TREMCARD.
車輛須具備一手提“CAUTION, TOXIC GAS, KEEP CLEAR”，“有毒氣體，危險勿近”的中英文告示牌，字體高度須不少於120毫米，以便在採取運輸應急措施時展示出來。

EQUIPMENTS ATTACHED (附加工具)

18. 2 nos. of 2 kg dry powder fire extinguishers shall be provided one on each side of the vehicle and accessible from outside the cab. The fire extinguishers shall be kept in efficient working order at all times and be inspected by a registered Fire Service Installation Contractor at least once in every 12 months.
車輛須設置2具2公斤乾粉滅火筒，每邊車身各一具，並可由駕駛室外輕易取得。該等滅火筒任何時間須保持性能良好，及每十二個月最少由註冊消防裝置承辦商檢查一次。
19. A portable hand telephone shall be provided inside the driver’s cab to facilitate easy communication with HKFSD/HKPF in case of emergency.
駕駛室內須設有手提電話，以便遇有緊急事故時，能夠迅速通知香港消防處 / 香港警務處。
20. A portable amber flashing lamp shall be stowed on the vehicle for immediate use when implementing the TREMCARD Guidelines as stipulated in Requirement 23.
車上須設有手提黃閃燈，以便在實施第23項規定所載的應急措施時可供即時使用。
21. A loud-hailer in good working order shall be stowed on the vehicle for immediate use at any time.
車輛上須存放一具性能良好的擴音器，以便在任何時間均可即時使用。
22. A fully kitted up first aid box shall be stowed on the vehicle for immediate use at any time.
車輛上須放置一個設備齊全的急救箱，以便在任何時間均可即時使用。

23. A TREMCARD (Transport Emergency Card) containing the following guidelines shall be stowed on the vehicle and made available for reference at all times:-
車輛內須存放運輸應急措施指南，列載以下各項應急措施，隨時可供參考：
- i) Notify Police and Fire Services immediately;
立即通知警務處及消防處；
 - ii) In case of a suspected chlorine leak, if possible, keep vehicle moving to open ground, ensure driver and others keep upwind of escaping gas;
如懷疑氯氣洩漏，盡可能把車輛駛至空曠地方，確保司機和其他人士處於漏出氣體的上風位；
 - iii) Stop the engine (beware – internal combustion engines can stall in a gas cloud);
關掉引擎(小心一內燃機可把氣團團積起來)；
 - iv) No naked lights;
不要有明火；
 - v) No smoking;
不准吸煙；
 - vi) The responsible person of Requirement 29 and the driver shall wear their breathing apparatus in the ‘use’ position as soon as a leak is suspected;
一旦懷疑洩漏氣體，第29項規定的負責人和司機須盡快佩戴呼吸輔助器；呼吸器輔助應扭至「使用」的位置；
 - vii) To mark road and warn other road users by using the portable caution sign and amber flashing lamp stowed on the vehicle;
利用車輛內存放的手提警告牌及黃閃燈，在道路上放置標誌，警告其他道路使用者；
 - viii) Attempt to stop the leakage / release by shutting off the cylinder/drum valve if the leak is located there or by using the materials / equipment / tools in the Emergency Repair / Stoppage Kit, where possible; and
如果在氣瓶 / 圓桶活門處發現有洩漏/釋放氯氣的情況，應關掉該活門，或在可行的情況下，用緊急修理 / 阻止氣體洩漏工具箱內的物料 / 器材 / 工具來阻止氯氣洩漏 / 釋放；及
 - ix) No further emergency action shall be taken by any person acting alone or without full equipment.
任何人士不可在單獨或缺乏齊備器材的情況下採取進一步的應急措施。

This document is for reference only. Case-specific fire safety requirements will be issued once an application for DGV licence is received.

本文件只作參考。當收到危險品車輛牌照的申請時，指定的消防安全規定才另行發放。

24. Two sets of approved positive pressure breathing apparatus as specified in the Factories and Industrial Undertakings (Confined Spaces) (Approval of Breathing Apparatus) Notice carry with fully charged cylinders of a working duration not less than 30 minutes shall be provided.
須設有兩套認可的正壓呼吸輔助器材，這些輔助器材須符合工廠及工業經營(密閉場地)(核准呼吸輔助器具)公告所規定的規格，並且連同完全充氣而可維持不少於三十分鐘工作時間的氣瓶。
25. Canvas sheets of suitable size to cover the entire cargo compartment shall be provided.
須設有尺碼適中的帆布，用來遮蓋整個貨廂。
26. Two sets of protective clothing with gloves and helmet shall be provided.
須備有兩套保護衣物，連同手套以及頭盔。

GENERAL OBSERVATION (一般情況)

27. Only one category of dangerous goods shall be conveyed by the vehicle at any one time.
無論在任何時間，該車每次只准運送一種類別的危險品。
28. Tyres shall be the 'anti-static' type, the electrical resistance of which shall be in accordance with BS 2050 or equivalent.
車胎須為“抗靜電”式，其電阻須符合英國標準BS 2050 或同等規格。
29. The vehicle carrying liquefied gases in Category 2 dangerous goods (Chlorine) shall be attended by at least one person other than the driver having reasonable experience in the handling of such dangerous goods. This person shall have been trained to deal with emergency involving chlorine leakage/release such as:
車輛運送屬於第2類危險品(氯氣)時，除司機外，最少須有一人看管該車輛，該人須對處理該種危險品有相當經驗，並且必須受過訓練，知道怎樣處理洩漏／放出氯氣等緊急事故，例如：
 - i) To ensure that the chlorine drums / cylinders are properly placed on the DG Vehicle before conveyance;
確保在運載前，氯氣圓桶/氣瓶已正確地放置在車輛上；
 - ii) To dismiss the crew except the driver in case of emergency and implement the guidelines stipulated in the TREMCARD of Requirement 23 with the aid of the driver, where appropriate before the arrival of F.S. personnel. To ensure that both the driver and himself wear Breathing Apparatus carry with fully charged cylinders and protective clothing with gloves in case a chlorine leak is suspected;

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遇有緊急事故時，除了司機外疏散其他人員。在司機協助下於消防人員抵達現場前，採取第 23 項規定所載的運輸應急措施。如果懷疑有洩漏氯氣的情況，須確保自己和司機都佩戴已完全充氣的呼吸輔助器，和穿著有手套的保護衣物；

- iii) To act as a co-ordinator between the conveyance team (i.e. driver/crew) and the emergency stand-by team of the supplier company;
擔任運輸車隊(即司機／跟車)和供應商的緊急候命隊之間的聯絡員；
 - iv) To brief F.S. personnel of the situation upon their arrival; and
在消防人員抵達時，向他們扼要述說情況；及
 - v) Shall be a permanent employee of the Contractor and therefore able to train up other staff on safety/emergency procedures.
須為承辦商的永久僱員，以便能夠訓練其他職員實行各項安全／緊急措施的工作程序。
30. The clamping devices for chlorine drums shall be mounted on the mainframe/subframe of the vehicle.
氯氣圓桶的夾鉗裝置須安裝在車輛的主架或副架上。
31. The subframe for the cargo platform shall be reinforced to withstand side impact during accident.
載貨台的副架須予鞏固，並能夠在交通意外時，抵擋衝撞力。
32. The V-notches, clamps and straps shall be directly bolted or welded onto the subframe cross and longitudinal members.
V 型槽口、夾鉗及皮帶須栓住或焊接着副架的十字頭和縱向的架條。
33. Suitable tightening devices shall be provided to hold the chlorine drums firmly in the V-notch without any side and vertical movements.
須設置適當的繫牢裝置。把氯氣圓桶穩固地繫牢在V型槽口內，使圓桶不會上下或向兩面移動。
34. Crash barriers of 300 mm in height at mid drum level shall be provided for full length of the cargo platform on both sides to protect the main drum valve. Similar crash barrier shall be provided at the rear of the cargo compartment if no special fittings are installed at the rear.
載貨台兩面須設置300毫米高的防撞欄，高至圓桶高度的一半，長度與整個載貨台的長度相等，用來保護圓桶的主要閥。如果貨廂尾部沒有特別裝置，也須設置類似的防撞欄。

35. A full width robust bumper shall be mounted at the rear of the vehicle with at least 75 mm clearance between the cargo platform and the bumper.
車輛尾部整個闊度須裝有堅固的保險桿，載貨台與保險桿之間最少須保持75毫米的距離。
36. A purposely designed cage for carrying cylinders shall be provided. It shall be constructed such that the cylinders can be tightly tied together and onto the cage without relative movements. A suitable locking device shall also be fitted to lock the cage on the cargo platforms of the vehicle.
須裝置特別設計的籠，用來運載氣瓶。這些籠的構造須使氣瓶能夠繫牢在籠上而不會移動，並須裝設適當的鎖，把車輛載貨台上的籠鎖起。

N.B.

附註

1. Notices referred to at paragraphs 15, 16 and 17 above shall be made of reflective white or silver letters and characters on a red background. English letters with height and width in the proportion of 2 : 1 (e.g. 120 mm letters with 60 mm width, 75 mm letters with 36 mm width). Each letter shall be reasonably spaced, a 6 mm spacing is recommended for 120 mm letters and 3 mm spacing for 75 mm letters;
以上第 15, 16 及 17 段所述的‘告示’須用反光的白色或銀色中英文字寫在紅底板上。英文字母的高度和闊度的比例須為 2 : 1 (120 毫米的字體須為60毫米闊；75毫米的字體須36毫米闊)字母間須有適當的距離。120毫米的字體其字母須相距6毫米，而75毫米的字體則須相距3毫米。
2. Protective clothing and gloves referred to at paragraph 26 shall be to the satisfaction of the Director of the Fire Services;
第 26 段所提及的保護衣物和手套，須達到令消防處處長滿意的規格。
3. The responsible person referred at paragraph 29 shall receive his training in dealing with chlorine leakage emergency and on how to stop the leak etc. through an authorized organization e.g. the chlorine Supplier Company. Upon completion of the training, a certificate or letter of competence shall be issued from the chlorine supplier company and copied to this Department for scrutiny;
第 29 段所提及的負責人須接受獲授權的機構訓練，例如氯氣供應公司等，學習怎樣處理和停止氯氣洩漏等緊急事故。在完成訓練後，須由氯氣供應公司發給證書或資格證明書，其副本須送交本處審閱；

4. The responsible person and vehicle driver referred to at paragraph 23(vi) shall receive their B.A. training, test procedures and subsequent maintenance, from the B.A. supplier company. Upon completion of the B.A. training, a certificate or letter of competences shall be issued from the B.A. supplier company and copied to this Department for scrutiny; and

第 23 段(vi)節所提及的負責人和車輛司機應接受呼吸輔助器供應公司訓練，學習如何使用呼吸輔助器、測試的程序以及日後的維修工作。在完成訓練後，應由呼吸輔助器供應公司發給證書或資格證明書，其副本須送交本處審閱；及

5. The Emergency Repair / Stoppage Kit for chlorine leakage/release referred to at paragraph 23(viii) shall comprise the following items :-

第 23段(viii)節所指修理/停止氯氣洩漏／釋放的器材應包括以下各項：

- (i) Canvas straps 帆布帶
- (ii) Spanners 士巴拿
- (iii) Two large buckets of sand 兩大沙桶連沙
- (iv) Silicone weather-proofing sealant 全天候硅酮密封劑(泥膠)
- (v) Plastic sheets 膠布
- (vi) Lead plates 鉛片
- (vii) Hammer, small 手錘(小)
- (viii) Ammonia spray bottle 阿摩尼亞吹筒
- (ix) Lime Powder 石灰
- (x) Any other appropriate materials/equipment/tools as advised by the Authority 當局所建議的任其他適當的物料/器材/工具